

# CAE Research Project Meeting Minutes

10-21-2022

- **Participants**
  - Dr. Waleed Farag (PI)
  - Dr. Xin-Wen Wu
  - Drew Rado
  - Emily Himes
  - Hector Linarez
  - Maria Balega
  - Sky Semone
  - Zach Keyser
  - Zaryn Good
- Meeting started at 6:00 pm
- Unanimously approved minutes for meeting on October 14th, 2022

## **Main Points:**

- **Progress report**
  - Sky updated the code for the Arduino boards and fixed all nodes to a permanent board.
  - Zaryn made progress on the KDD paper and talked to Alicia and Franklin about paper, and will try to get it done for next week
  - Maria worked with Drew and Sky to get Wireshark data. Worked with Meghan to get her up to speed on current work.
  - Drew showed the Wireshark data
    - Drew showed the sample sensor data and mentioned some of the issues with it
    - Also showed the sample Wireshark data.
  - Sky tried getting network data on the Arduino, but it was short of what Wireshark was capable of
    - Instead worked to get sensors working with TB.
    - Started making custom calibration and fixed stalling UART communications
  - Emily reviewed the previous part of the project to make sure our current work will merge with it properly.
  - Nathan and Drew helped fix titan, GNOME settings, RAID storage, and other outstanding issues.
  - Hector and Zach will be working with Sky and Drew to get more tasks for the future.

## **Discussion points**

- Wireshark data
  - Dr. Wu mentioned that the connection state is important and that we should look into it more.
  - Label field should be included for now; all should be benign for now
  - Packet data should be determined and included
  - This should be done by next week
- Anomalous Data
  - We should start thinking about how this will be accomplished
  - Look at original papers and consult with Maria.
  - Manually create anomalies for now

- **Tasks:**
  - Maria and Zaryn
    - Once data comes in, verify it, preprocess it if it will work, and start applying algorithms
    - Show Meghan relevant scripts on Titan, and how the machine learning things work.
  - Drew, Nate, Sky, Emily, Meghan, Hector, Zach
    - Determine the capabilities of Wireshark in collecting network data needed to recreate datasets used in part one of the study.
    - Format the Wireshark data exactly like IoT data
    - Python preprocessing program, perhaps include ways of creating anomalies artificially
  - Drew and Nate
    - Make sure Titan is in good working order once development of sensor code is completed.
  - Emily: research anomalous data, and the IoT datasets.

Adjournment at 6:45

Next meeting will be held on Friday, October 28th at 6:00 pm